

- fig. 1a); thorax longer as compared with first abdominal segment .....3.
3. Pronotum with a distinct transverse linear impression before middle (cf. fig. 2a).....4.  
Pronotum without the linear impression, often with one or two transverse rows of punctures (cf. fig. 1a).....5.
4. Abdomen ornamented dorsally with conspicuous patches of silvery pubescence; hind tibiae similar in male and female; color dark brown, a transverse mark on anterior lobe of pronotum and a spot on each connexival segment dull yellowish; length about 2.3 mm.....*americana* Uhler.  
Abdomen without silvery pubescence; hind tibiae bent in male; color black or brown with grayish markings more distinct in female than in male; length about 1.8 mm. (fig. 2).  
*borealis* Torre-Bueno.
5. Length about 2.3 mm.; surface shining, very minutely pubescent; antennae very long and slender, the fourth segment twice as long as distance between eyes; color yellowish brown, variably marked with black. .*albonotata* Champion.  
Length less than 2 mm.; pubescence more strongly developed, though short, surface dull; fourth antennal segment about as long as distance between eyes.....6.
6. Pronotum about three times as long on median line as mesonotum; abdomen with conspicuous tufts of silvery pubescence; third antennal segment slenderly clavate, slightly longer than second (6-5); color black, anterior lobe of pronotum yellowish, abdomen with dull grayish patches; length about 1.7 mm.....*buenoi* Drake.  
Pronotum not twice as long as mesonotum; abdomen without silvery pubescence; third antennal segment almost linear, much longer than second (8-5); color light to dark brown, with black, yellow, and bluish markings; length 1-1.6 mm. ....*hinei* Drake.

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### THE NUMBER OF ANTENNAL SEGMENTS IN GALL MIDGES AND A NEW SPECIES.

By E. P. FELT, State Entomologist of New York, Albany, N. Y.

The normal number of antennal segments among generalized Nematocera is probably 16—that is, a greater or a smaller number means specialization by addition or reduction. The remark-

able Mexican *Ceratomyia* Felt has only six antennal segments. Most gall midges have 14 antennal segments, a limitation almost invariably true of the large series belonging to the sub-tribe Itonididinae, though *Hormomyia* with *Oligotrophus* affinities contains a few species with as many as 25 or 26 segments, the flagellate binodose in the male and 20 to 24 at least in the female. Early writers counted each enlargement in the Diplosid male antenna as a segment and this introduces a possible confusion not always readily eliminated.

The Asphondyliariae, like the Itonididinae, show relatively little variation in the number of antennal segments, while in the Dasyneuriariae and the Oligotrophariae there are numerous variations, the extremes ranging from 9 to 26 segments. It is noteworthy in these latter two tribes that the larger species as a rule have the greatest number of antennal segments.

The Lasiopteriariae, a sharply delimited and rather highly specialized tribe, show a great diversity in the number of antennal segments, this ranging from 10 or 12 in *Clinorhyncha* H. Lw. to 39 in one species of *Lasioptera* Meign.

An Australian species, *Lasioptera nodosae* Skuse, held the record for the greatest number of antennal segments (34) till the discovery in the U. S. National Museum collections of the species described below, which has the astonishing number of 39, a total exceeding anything heretofore recorded for the tribe and probably for the entire family.

#### ***Lasioptera howardi* n. sp.**

The species described below was reared February 10, 1883, by Mr. Theodore Pergande, from a lot of elongate, oval twig galls found on scrub oak, some of them collected January 3, in Pine Cañon, Mount Diablo, Contra Costa County, Calif., and some from apparently the same species of oak at Martinez, Calif., received January 13, 1883, from H. W. Turner. It is a pleasure to name this insect in honor of Dr. L. O. Howard. This species has the third vein uniting with the anterior margin at the basal half, 39 antennal segments, dark tarsi, annulated with white and a cluster of numerous slender, spoon-like hooks on the lobes of the ovipositor.

It is related to two other oak midges, both with an unusual number of antennal segments, namely, *Lasioptera querciperda* Felt, which has the third vein uniting with the anterior margin of the wing at the basal third, 28 antennal segments, the tibiae and tarsi mostly reddish or dark brown, unbanded and a cluster upon the lobes of the ovipositor consisting of two exceptionally heavy and many very slender hooks, and *L. querciflorae* Felt, which has the third vein uniting with the anterior margin at the basal half, 33 antennal segments, yellowish or yellowish brown, unbanded, and a cluster on the lobes of the ovipositor consisting of numerous very slender hooks.

The following description is based upon a specimen mounted in a balsam slide in the National Museum collection and labeled 3-2-19, No. 2972<sup>03</sup>, February 10, '83. The structural characters are taken from the preparation and the colorational features drafted from Mr. Pergande's notes, the whole being kindly placed at our disposal by Dr. Howard.

Female: Length 1 mm. Antennae extending to the second abdominal segment, sparsely haired, dark brown, 39 segments, the fifth with a length about  $\frac{3}{4}$  its diameter; terminal segment somewhat produced, with a length a little greater than its diameter and tapering to a broadly rounded apex; palpi, first segment with a length nearly three times its diameter, the second a little longer, more slender, the third a little longer than the second, more slender, the fourth about  $\frac{1}{3}$  longer than the third, more slender. Color when living as follows: "Thorax, underside, abdomen, femora, base of wings and halteres cinnamon brown covered with a whitish pubescence, upper side of thorax with medial two lateral darker lines—three lines freer from pubescence than other portions of the body, wings with costa black except a small whitish spot about midway to apex. Upper side of abdomen black with two large triangular spots of gray upon each segment. Legs and antennae dark with whitish pubescence, former annulated at joints with white." (Pergande.)

In addition, it may be stated that the basal abdominal segment appears to be white as in related species, and the preparation does not very satisfactorily justify the white annulations unless the latter are restricted mostly to the femoro-tibial and the tibio-

tarsal articulations. The ovipositor is presumably as long as the abdomen when extended, the terminal lobes somewhat irregular, with a length over twice the diameter and the dorsum thickly set with long, rather slender spoon-like, chitinized processes; claws moderately heavy, strongly curved, unidentate; the pulvilli as long as the claws. Type in U. S. National Museum.

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### COLLECTING NOTES.

BY E. L. BELL, Flushing, N. Y.

While collecting in a glade on the side of a road running through the woods near Kings Park, Long Island, N. Y., one day during the latter part of July I was struck by the great number of robber flies infesting the spot, and was particularly interested in their activity in capturing various insects on the wing and their remarkable dexterity in the chase.

I saw one of those common little butterflies, *Phyciodes tharos* Drury, lazily flying through the tops of the grasses, and as it passed a small sumac bush a robber fly, *Asilus sericeus* Say, suddenly darted out of the bush and pounced upon it as it flew along; and so rapidly was it all done that the little butterfly just seemed to melt away in a blur before my eyes. The robber fly did not fly far, but alighted about ten feet away, where I captured it and its prey. The butterfly was quite dead when taken, although probably not much over a full minute had elapsed between its own capture by the fly and the capture of both by myself in turn.

Another incident occurred a short distance from the one just related; this time the victim was a *Strymon titus* Fabricius. I saw the butterfly fly in back of a small sumac bush, and as it did not appear on the other side assumed that it had alighted. As I wished to capture it, I went to the spot and stood looking to see if I could see it anywhere on the leaves of the bush or the surrounding vegetation. As I was quite sure that it must be there, I was puzzled in not being able to locate it anywhere on the